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Claims

10 1. A flexural actuator having an elongated shape, comprising an attachment section for fixation of the flexural actuator and a functional section, extending away from the attachment section, able to be deflected athwart the longitudinal axis thereof by activation of the flexural actuator, such functional section being provided
15 with at least one sensor means suitable for detecting longitudinal stretch, wherein the sensor means is placed at a position, and/or symmetrically on either side of such position, at which, when the functional section thrusts against a resistance there is a constant longitudinal
20 stretch independent of the setting force.

25 2. The flexural actuator as set forth in claim 1, wherein the sensor means is placed on one of surfaces orientated in the direction of the deflection movement.

3. The flexural actuator as set forth in claim 2, comprising a plurality of such sensor means, which are placed in different planes on or in the flexural actuator.

30 4. The flexural actuator as set forth in claim 3, wherein on each of the two surfaces, orientated in the direction of the deflection movement, of the functional section in each case at least one sensor means is placed.

35 5. The flexural actuator as set forth in claim 1,

wherein the sensor means extends continuously over the position of constant longitudinal stretch.

5 6. The flexural actuator as set forth in claim 1, wherein the sensor means is interrupted at the position of constant longitudinal stretch.

10 7. The flexural actuator as set forth in claim 1, wherein the sensor means is adapted for capacitive measurement.

8. The flexural actuator as set forth in claim 1, wherein the sensor means is adapted for ohmic measurement.

15 9. The flexural actuator as set forth in claim 1, wherein the sensor means is strip-like in its configuration.

20 10. The flexural actuator as set forth in claim 1, wherein such sensor means extends along a substantial length along the flexural actuator and for customization resulting from a particular application the position of constant longitudinal stretch may be selectively deactivated.

25 11. The flexural actuator as set forth in claim 1, designed in the form of a piezoelectric flexural actuator.

30 12. An actuator means, comprising a flexural actuator which is fixed in place by means of an attachment section on a base, and which comprises a functional section extending away from the attachment section, which functional section is able to be deflected by activation of the flexural actuator athwart the longitudinal axis thereof and may be thrust against a resistance arranged in
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the deflection path and which is provided^{with} at least one sensor means responsive to the longitudinal stretch, wherein the sensor means is placed at, and/or in the longitudinal direction on either side, of a position, at which with the functional section thrust against the resistance, there is a constant longitudinal stretch independent of the setting force.

13. The actuator means as set forth in claim 12, wherein the resistance is constituted by a valve seat provided for a fluid duct.

14. The actuator means as set forth in claim 12 in the form of a fluid control valve.

15. The actuator means as set forth in claim 1, comprising evaluating means responsive to the deflection and/or the setting force of the functional section on the basis of the longitudinal stretch found using the sensor means.

16. The actuator means as set forth in claim 15, comprising evaluating for finding the deflection and/or setting force of the functional section on the basis of the longitudinal stretch measured with the sensor means and furthermore comparator means for comparison of the stretch integral round with a predetermined desired value.

17. The actuator means as set forth in claim 15, wherein the evaluating means are designed that to separately measure the stretch integrals of the sections, which lie underneath on either side of the position of the position of constant stretch, and to add together and/or subtract the stretch integrals to and, respectively, from each other.

18. The actuator means as set forth in claim 12,
comprising such flexural actuator as claimed in claim 2.